



BILLING CODE 3510-DS-P

DEPARTMENT OF COMMERCE
International Trade Administration
Application(s) for Duty-Free Entry of Scientific Instruments

Pursuant to Section 6(c) of the Educational, Scientific and Cultural Materials Importation Act of 1966 (Pub. L. 89-651, as amended by Pub. L. 106-36; 80 Stat. 897; 15 CFR part 301), we invite comments on the question of whether instruments of equivalent scientific value, for the purposes for which the instruments shown below are intended to be used, are being manufactured in the United States.

Comments must comply with 15 CFR 301.5(a)(3) and (4) of the regulations and be postmarked on or before (Insert date 20 days after publication in the FEDERAL REGISTER). Address written comments to Statutory Import Programs Staff, Room 3720, U.S. Department of Commerce, Washington, D.C. 20230. Applications may be examined between 8:30 A.M. and 5:00 P.M. at the U.S. Department of Commerce in Room 3720.

Docket Number: 12-053. Applicant: University of Colorado Boulder, 1800 Grant St., Suite 500, Denver, CO 80203. Instrument: HF2LI Lock-In System. Manufacturer: Zurich Instruments AG, Switzerland. Intended Use: The instrument will be used to measure detected near-field signals scattered off an Atomic Force Microscope (AFM) tip in a scattering-Scanning Near-field Optical Microscope (s-SNOM). The instrument will detect the magnitude and phase of the light scattered by an AFM tip to measure the electromagnetic near-field of optical antennas, plasmonics in metals and semiconductors (including graphene), photonic crystals, and other nanoscale spectroscopy applications. The instrument has the ability to fully digitize the measured signal and analyze it at 50 MHz, as well as the ability to demodulate many frequencies at once, which is essential to the measurement technique. Demodulation at 50 MHz is necessary because the AFM tip oscillates at 350-300 kHz, and higher harmonics (5th or 6th) of this oscillation must be measured to isolate the near-field signal. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: November 2, 2012.

Docket Number: 12-054. Applicant: Purdue University, 525 Northwestern Ave., West Lafayette, IN 47907-2036. Instrument: DD Neutron Generator. Manufacturer: NSD Fusion,

Germany. Intended Use: The instrument will be used to determine the behavior of produced scintillation light and ionization electrons of low energy nuclear recoils of Xenon, as well as to compare the combination of energy released in these two channels to energy released in electronic recoils of the same energy. The scintillation and ionization signals are studied in a detector vessel that lies underneath 5 meters of water, thus the instrument needs to be water tight. To study the scintillation light and ionization behavior of liquid xenon to neutrons from a mono-energetic neutron source with energies close to 2.5 MeV, each neutron interaction must be resolved separately, and thus arrive at most once every millisecond. The instrument has been proven to show less than a few hundred counts per second when operated at low voltage, and thus meets this requirement. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: November 2, 2012.

Docket Number: 12-057. Applicant: Massachusetts Institute of Technology, 190 Albany St., NW21-121, Cambridge, MA 02139. Instrument: Fast Ferrite Tuner. Manufacturer: AFT Microwave GmbH, Germany. Intended Use: The instrument is part of a magnetic field-aligned Ion Cyclotron RF antenna, which is used to automatically follow the load variation in real time and make the antenna system load tolerant. The instrument's unique specifications are its frequency range of 50-80 MHz and 5 MW circulating power. Justification for Duty-Free Entry: There are no instruments of the same general category manufactured in the United States. Application accepted by Commissioner of Customs: November 15, 2012.

Gregory W. Campbell
Director of Subsidies Enforcement
Import Administration

December 11, 2012
DATE